ACC.14
TCT@ACC-i2 | innovation in intervention

A1228
JACC April 1, 2014
Volume 63, Issue 12

# Non Invasive Imaging

## TO STRESS OR NOT TO STRESS: APPROPRIATE USE OF CARDIAC RADIONUCLIDE IMAGING USING A CONVENIENT SMARTPHONE APPLICATION

Poster Contributions
Hall C
Monday, March 31, 2014, 9:45 a.m.-10:30 a.m.

Session Title: SPECT Myocardial Perfusion Imaging: Trends in Imaging, Appropriateness, Radiation Updates
Abstract Category: 16. Non Invasive Imaging: Nuclear
Presentation Number: 1247-30

Authors: *Ashish Mahajan, Susan Bal, Harvey Hahn, Kettering Medical Center, Kettering, OH, USA*

**Background:** Inappropriate cardiac imaging has been identified as a significant cost concern and cause of radiation burden to patients. We assessed if a free and convenient smartphone application based on Appropriate Use Criteria (AUC) for Cardiac Radionuclide Imaging published by American College of Cardiology (ACC) would be feasible at the point of care.

**Methods:** We prospectively evaluated Nuclear Stress Tests (n=403) (mean Age=62.18 years; 47.14% males) over a three month period using a free smartphone application to determine whether the study was Appropriate, Inappropriate or Uncertain per 2009 AUC. We also monitored the time needed to use the application to assess each stress test.

**Results:** Of the 403 Nuclear Stress Tests evaluated, 66.25% were noted to be Appropriate, 29.28% were Inappropriate and 3.22% Uncertain per AUC. 1.24% remained Unclassified. Average time needed to use the application to assess each stress test was noted to be 49.82 (+ 8) seconds. Among the studies with positive results, 77.77% were appropriately ordered per AUC. Among the appropriately ordered studies, 26.21% were positive, whereas among the inappropriately ordered studies, only 13.55% were positive. The difference was statistically significant (p value = 0.0054).

**Conclusion:** A free and convenient smartphone application provides an easy-to-use tool to assist physicians in determining the level of appropriateness of Nuclear Stress Testing in a time and cost effective manner at the point of care. The smartphone application has potential to promote the usage of the Appropriate Use Criteria and possibly aid reduction of healthcare cost and ionizing radiation burden.